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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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01/27/2005

Joni Kettunen

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6468

7590

01/29/2007

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EXAMINER

JOHNSON, SHEVON ELIZABETH

ART UNIT

PAPER NUMBER

3766

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/523,160	Applicant(s) KETTUNEN ET AL.	
	Examiner Shevon E. Johnson	Art Unit 3766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/27/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 11-14 is/are rejected.
- 7) ☒ Claim(s) 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/27/2005</u> | 6) <input type="checkbox"/> Other: _____ |

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 112

2. **The following is a quotation of the second paragraph of 35 U.S.C. 112:**

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. **Claims 3, 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 3 recites the limitation "the second chosen rule" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the relaxation index" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the total resources index" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

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The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because on line 1, the language "the invention" was used and should be deleted. Correction is required. See MPEP § 608.01(b).

The specification is objected to because on page 8, line 11, "generalized likelihood ratio" should be "generalized likelihood ratio (GLR)".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Swanson et al. (U.S. Patent No. 5,788,645).

In regards to claim 1, Swanson discloses a procedure for the detection of stress state, wherein ambulatory heart beat signal is measured, characterized in that segments are defined from heart beat signal with a chosen rule for segmentation, and at least one segment describing a physiological state with elevated cardiac activity due to physical workload and/or increased metabolic rate is identified and excluded, if exists, and segments other than the excluded segments are detected for a potential stress state, which is identified using a predetermined rule for the heart beat signal (col. 8, line 33-44).

In regards to claim 2, Swanson discloses a procedure characterized in that the first chosen rule is used to identify state and period of one or more following: exercise, physical activity, movement, recovery from exercise and postural changes (col. 3, line 44-col. 5, line 17).

In regards to claim 3, Swanson discloses a procedure characterized in that the second chosen rule comprises procedure to identify internally coherent segments from heart beat signal (col. 3, line 44-col. 5, line 17).

In regards to claim 4, Swanson discloses a procedure characterized in that detected segments are used for correcting heart rate based oxygen- and energy consumption estimate (col. 3, line 44-col. 5, line 17).

In regards to claim 5, Swanson discloses a procedure characterized in that an index representing a summary of the existence and level of stress, relaxation and/or resources for a chosen period of measurement, is determined. (col. 3, line 44-col. 5, line 17).

In regards to claim 6, Swanson discloses a procedure characterized in that stress and relaxation are measured on the basis of heart period measurement, wherein information on the length of detected relaxation and length of detected stress is used as informative in the detection and quantification of relaxation and stress states (col. 3, line 44-col. 5, line 17).

In regards to claim 7, Swanson discloses a procedure characterized in that information on the exercise, physical activity, movement, or postural changes is obtained from heart beat signal and at least one separate input (col. 3, line 44-col. 5, line 17).

7. Claims 1-7 and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Arnold et al. (U.S. Patent No. 5,713,367).

In regards to claim 1, Arnold discloses a procedure for the detection of stress state, wherein ambulatory heart beat signal is measured, characterized in that segments are defined from heart beat signal with a chosen rule for segmentation, and at least one segment describing a physiological state with elevated cardiac activity due to physical workload and/or increased metabolic rate is identified and excluded, if exists, and segments other than the excluded segments are detected for a potential stress state, which is identified using a predetermined rule for the heart beat signal (col. 17, line 41 – col. 18, line 26).

In regards to claim 2, Arnold discloses a procedure characterized in that the first chosen rule is used to identify state and period of one or more following: exercise, physical activity, movement, recovery from exercise and postural changes (col. 17, line 41 – col. 18, line 26; col. 21, line 5 – col. 23, line 7).

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In regards to claim 3, Arnold discloses a procedure characterized in that the second chosen rule comprises procedure to identify internally coherent segments from heart beat signal (col. 17, line 41 – col. 18, line 26; col. 21, line 5 – col. 23, line 7).

In regards to claim 4, Arnold discloses a procedure characterized in that detected segments are used for correcting heart rate based oxygen- and energy consumption estimate (col. 17, line 41 – col. 18, line 26; col. 21, line 5 – col. 23, line 7).

In regards to claim 5, Arnold discloses a procedure characterized in that an index representing a summary of the existence and level of stress, relaxation and/or resources for a chosen period of measurement, is determined (col. 17, line 41 – col. 18, line 26; col. 21, line 5 – col. 23, line 7).

In regards to claim 6, Arnold discloses a procedure characterized in that stress and relaxation are measured on the basis of heart period measurement, wherein information on the length of detected relaxation and length of detected stress is used as informative in the detection and quantification of relaxation and stress states (col. 17, line 41 – col. 18, line 26; col. 21, line 5 – col. 23, line 7).

In regards to claim 7, Arnold discloses a procedure characterized in that information on the exercise, physical activity, movement, or postural changes is obtained from heart beat signal and at least one separate input (col. 17, line 41 – col. 18, line 26; col. 21, line 5 – col. 23, line 7).

In regards to claim 11, Arnold discloses a procedure characterized in that the procedure is used in a wearable computer. (col. 8, line 49 – col. 10, line 67)

In regards to claim 12, Arnold discloses a procedure characterized in that the procedure is used in a fitness exercise equipment. (col. 8, line 49 – col. 10, line 67)

In regards to claim 13, Arnold discloses a procedure characterized in that the procedure is used in a PC-software. (col. 8, line 49 – col. 10, line 67)

In regards to claim 14, Arnold discloses a procedure characterized in that the procedure is used in a ECG/pulse-monitoring equipment (col. 8, line 49 – col. 10, line 67).

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Allowable Subject Matter

8. Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shevon Johnson whose telephone number is (571) 272-2010. The examiner can normally be reached on M-F (8 a.m. - 4:30 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shevon Johnson
Art Unit 3766


Robert Pezzuto
Supervisory Patent Examiner
Art Unit 3766